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3/31/03  
Mallish

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent Application

Inventor(s) Yuliya Akulova  
Michael Geva  
Abdullah Ougazzaden

Case 3-12-10

Serial No. 09/645913

Filing Date 08/25/2000

Examiner Michelle Estrada

Group Art Unit 2823

Title Dopant Diffusion Barrier Layer and Method of Manufacture

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ASSISTANT COMMISSIONER FOR PATENTS WASHINGTON, D.C.  
20231

SIR:

REVOCATION OF POWER OF ATTORNEY AND APPOINTMENT OF ASSOCIATE  
ATTORNEY

I hereby revoke all previous powers of attorney or authorization of agent given in the above-identified application. Please recognize the following as an associate attorney in the above-mentioned application, with full power to prosecute said application, to make alterations and amendments therein, and to transact all business in the Patent and Trademark Office connected therewith.

Firm Name: Lester H. Birnbaum  
Reg. No. 25,830  
Address: 6308 Sauterne Drive  
Macungie, PA 18062  
Telephone: (610) 530-9166 FAX: (610) 530-2695

I represent the assignee of record of the entire interest who is entitled to prosecute this application to the exclusion of the named inventors or the previous assignee pursuant to 37 CFR 3.71. A statement under 37 CFR 3.73(b) is enclosed.

Respectfully,

*Raymond A. Link*

Raymond A. Link  
Vice President and Chief Financial Officer  
TriQuint Technology Holding Co.

Date: 2/17/03  
TriQuint Technology Holding Co.  
2300 NE Brookwood Parkway  
Hillsboro, OR 97124



**STATEMENT UNDER 37 CFR 3.73(b)**

Applicant/Patent Owner: TriQuint Technology Holding Co.

Application No./Patent No.: 09/645913 Filed/Issued Date: 8/25/2000

Entitled: Dopant Diffusion Barrier Layer and Method of Manufacture

TriQuint Technology Holding Co. corporation  
(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

States that it is :

1. ☒ [X] the assignee of the entire right, title, and interest; or
2. ☐ [ ] an assignee of less than the entire right, title and interest.  
The extent (by, percentage) of its ownership interest is \_\_\_\_\_ %

In the patent application/patent identified above by virtue of either:

A. ☐ [ ] An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel\_\_\_\_, Frame\_\_\_\_, or for which a copy thereof is attached.

OR

B. ☒ [X] A Chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as shown below:

1. From Inventor(s) To: Lucent Technologies Inc.  
The document was recorded in the United States Patent and Trademark Office at Reel 011405, Frame 0097, or for which a copy thereof is attached.
2. From Lucent Technologies Inc. To: Agere Systems Optoelectronics Guardian Corp.  
The document was recorded in the United States Patent and Trademark Office at Reel\_\_\_\_, Frame\_\_\_\_, or for which a copy thereof is attached.
3. From Agere Systems Optoelectronics Guardian Corp. To: Agere Systems Guardian Corp.  
The document was recorded in the United States Patent and Trademark Office at Reel\_\_\_\_, Frame\_\_\_\_, or for which a copy thereof is attached.
4. From Agere Systems Guardian Corp. To: Agere Systems Inc.  
The document was recorded in the United States Patent and Trademark Office at Reel\_\_\_\_, Frame\_\_\_\_, or for which a copy thereof is attached.
5. From Agere Systems Inc. To: TriQuint Technology Holding Co.  
The document was recorded in the United States Patent and Trademark Office at Reel\_\_\_\_, Frame\_\_\_\_, or for which a copy thereof is attached.

☐ [ ] Additional documents in the chain of title are listed on a supplemental sheet.

☒ [X] Copies of assignments or other documents in the chain of title are attached.

[Note: A separate copy (i.e., the original assignment document or a true copy of the original document) must be submitted to Assignment Division in accordance with 37 CFR Part 3, if the assignment is to be recorded in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

3/4/03  
Date

Lester H. Birnbaum  
Typed or printed name  
[Signature]  
Signature

Attorney  
Title



**EXECUTION COPY**

---

**PATENT ASSIGNMENT**

**by and between**

**LUCENT TECHNOLOGIES INC.**

**and**

**AGERE SYSTEMS OPTOELECTRONICS GUARDIAN CORP.**

**Dated as of January 30, 2001**

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**MAR 20 2003**  
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## PATENT ASSIGNMENT

THIS PATENT ASSIGNMENT (this "Assignment"), effective as of January 30, 2001 (the "Effective Date"), is by and between Lucent Technologies Inc., a Delaware corporation, with offices at 600 Mountain Avenue, Murray Hill, New Jersey 07974, United States of America, ("ASSIGNOR") and Agere Systems Optoelectronics Guardian Corp., a Delaware corporation, with offices at 555 Union Boulevard, Allentown, PA 18109, United States of America ("Agere Systems Optoelectronics Guardian").

### RECITALS

A. WHEREAS, the Board of Directors of ASSIGNOR has determined that it is in the best interests of ASSIGNOR and its stockholders to separate ASSIGNOR's existing businesses into two independent businesses;

B. WHEREAS, ASSIGNOR presently owns or controls certain patents, patent applications, and invention submissions listed in the attached Appendices A and B (hereinafter "TRANSFERRED PATENTS") and;

C. WHEREAS, in furtherance of the foregoing separation, ASSIGNOR desires to transfer, assign, convey, deliver and vest all of its interests and rights in TRANSFERRED PATENTS for all countries, jurisdictions and political entities of the world, to and in Agere Systems Optoelectronics Guardian;

NOW, THEREFORE, in consideration of the premises and for other good and valid consideration, the receipt and sufficiency of which are hereby acknowledged, the parties, intending to be legally bound, agree as follows:

ASSIGNOR, subject to existing rights and licenses of third parties, does hereby assign, convey, transfer and deliver, and agrees to assign, convey, transfer and deliver to Agere Systems Optoelectronics Guardian, its successors, assigns and legal representatives or nominees, ASSIGNOR's entire right, title and interest, for all countries, jurisdictions and political entities of the world, along with the right to sue for past infringement, to all TRANSFERRED PATENTS listed on Appendices A and B, and corresponding counterpart foreign patents and patent applications, with respect to which, and to the extent to which, ASSIGNOR now has or hereafter acquires the right to so assign, convey, transfer and deliver. Agere Systems Optoelectronics Guardian recognizes that ASSIGNOR holds only bare legal title to the TRANSFERRED PATENTS listed in Appendix A (which lists the United States Patents and patent applications previously exclusively licensed to Lucent Technologies Optoelectronics Guardian Corp.).

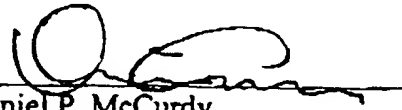
ASSIGNOR and ASSIGNEE recognize that the patents listed in Appendices A and B may inadvertently include patents that are owned by various subsidiaries of ASSIGNOR, including Agere, Inc., Ortel Corporation, Optimay Corporation, Herrmann Technology, Inc., and

Enable Semiconductor, Inc. Ownership of such patents shall not be affected by this Patent Assignment, and ASSIGNEE agrees that any such patents shall be deemed deleted from Appendices A and B.

ASSIGNOR agrees that, upon request it will, at any time without charge to Agere Systems Optoelectronics Guardian, but at Agere Systems Optoelectronics Guardian's expense, furnish all necessary documentation relating to or supporting chain of title, sign all papers, take all rightful oaths, and do all acts which may be necessary, desirable or convenient for vesting title to TRANSFERRED PATENTS in Agere Systems Optoelectronics Guardian, its successors, assigns and legal representatives or nominees; including but not limited to any acts which may be necessary, desirable or convenient for claiming said rights and for securing and maintaining patents for said inventions in any and all countries and for vesting title thereto in Agere Systems Optoelectronics Guardian and its respective successors, assigns and legal representatives or nominees.

IN WITNESS WHEREOF, the parties have caused this PATENT ASSIGNMENT to be executed by their duly authorized representatives as of the Effective Date.

**LUCENT TECHNOLOGIES INC.**

By:   
Daniel P. McCurdy  
President, Intellectual Property Business

**AGERE SYSTEMS OPTOELECTRONICS  
GUARDIAN CORP.**

By:   
Fred M. Romano  
President

ACKNOWLEDGMENTS

STATE OF NEW JERSEY )

: ss:

COUNTY OF SOMERSET )

I CERTIFY that on January 30, 2001, Daniel P. McCurdy personally came before me and this person acknowledged under oath, to my satisfaction that:

- a.) this person signed, sealed and delivered the attached Patent Assignment as President - Intellectual Property Business of Lucent Technologies Inc.; and
- b.) this Patent Assignment was signed and made by Lucent Technologies Inc. as its voluntary act and deed by virtue of authority from its Board of Directors.



Name

Notary Public

My Commission Expires **TAMORA ANNE HANNA**

[Notarial Seal]

Notary Public of New Jersey  
Registered in Hunterdon County  
My Commission Expires March 25, 2002

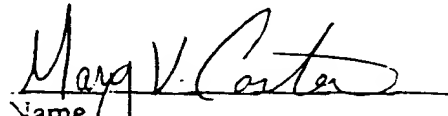
STATE OF FLORIDA )

: ss:

COUNTY OF ORANGE )

I CERTIFY that on January 31, 2001, Fred M. Romano personally came before me and this person acknowledged under oath, to my satisfaction that:

- a.) this person signed, sealed and delivered the attached Patent Assignment as Vice President of Agere Systems Optoelectronics Guardian Corp. ; and
- b.) this Patent Assignment was signed and made by Agere Systems Optoelectronics Guardian Corp. as its voluntary act and deed by virtue of authority from its Board of Directors.

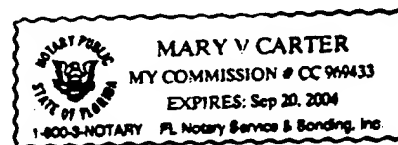


Name

Notary Public

My Commission Expires:

[Notarial Seal]



## APPENDIX B (continued)

### Transferred Patents

| IDS No. | Inventors  | Subject Matter  |
|---------|--|---|
| 114125  | Ernest Eisenhardt Bergmann   | Walk-Off End Assembly For Mirror Switching  |
| 121529  | Miri Park  | Holographic Grating Fabrication Using A Corner Cube Mirror With A Surface Curvature                           |
| 121543  | Abdallah Ougazzaden; Michael Geva; Yuliya Anatolyevna Akulova  | Application Of InAlAs Double-Layer To Block Dopant Out-Diffusion In III-V Device Fabrication                  |
| 121912  | Mary J Nadeau; Renyi Yang; Craig A Young; Paul Nicholas Pappas; Steven L Moyer; Hong-Tai Man; Rao V Yelamarty      | Laser Packaging Arrangement   |
| 122060  | Christopher Richard Doerr; Robert M Pafchek  | Reduced Power Consumption Thermo-Optic Devices  |
| 122064  | Ernest Eisenhardt Bergmann; Harvey Lawrence Wagner; Neal Henry Thorsten  | Polarization Independent Wavelength Combiner Distributor  |
| 122325  | Shachar Richter; Michael Geva; Rafael Nathan Kleiman   | Dual Polarity Current Amplifier With 14 Decades Of Amplification And Large Bandwidth                          |
| 122508  | Leonard Jan-Peter Ketelsen; Richard Bendicks Bylsma  | Integrated Capacitor For Crosstalk Reduction In Tunable Lasers  |
| 122510  | Curtis Anthony Jack; John William Osenbach   | Fiber Assembly That Eliminates Optical Instabilities Due To Improperly Cured Epoxy                            |
| 122512  | G Jacob Fox; Kevin J Sullivan; Robert Anthony Baron; Mark Bernard Cholewa  | Novel Method For Preventing Gold Or Solder Adhesion During Facet Coating                                      |
| 122607  | Lin Huang; Justin Boyd Judkins   | Dispersion Compensation Device  |
| 122690  | Dennis Tak Tong  | 160 Gbit/s Clock Recovery Using Electroabsorption Modulator-Based Phase-Locked Loop                           |
| 122702  | Jane D LeGrange; Susanne Arney; Katherine H Bogart; Avinoam Kornblit; Linda M Braun; Alexandru Paunescu            | An Optical Device With Power Monitoring Component And Process For Making Same                                 |
| 122842  | Kishore K Kamath   | Active Phase Tuning Of DBR Lasers   |
| 122845  | Abdallah Ougazzaden; Yuliya Anatolyevna Akulova; Kenneth Gerard Glogovsky; Mark S Hybertsen; Charles William Lentz | Technique For Thermal Stability Of Hydrogenation In The Passive Devices                                       |
| 122846  | Robert W Smith   | Silica Waveguide Switchback For Integrated Optical Devices  |
| 122847  | Jin Hong Lim   | Passively Output-Flattened Optical Amplifier  |
| 122848  | Yongqiang Shi  | New Two-Step Ti:LiNbO <sub>3</sub> Waveguide Fabrication Method For Low Coupling Loss And Low Driving Voltage |
| 122849  | Yongqiang Shi  | Grating Coupler For Surface-Mount Photodetector On Lithium Niobate Waveguide and PLCs                         |
| 122852  | William E Derbyshire; Dharendra S Bora   | Fiber Amplifier Package   |
| 122857  | Albert Michael Benzoni   | A High Speed Lensless Fiber-to-Photodetector Die O/E Interface Up to 40Gbps                                   |

**CERTIFICATE OF MERGER**  
**OF**  
**AGERE SYSTEMS OPTOELECTRONICS GUARDIAN CORP.**  
**WITH AND INTO**  
**AGERE SYSTEMS GUARDIAN CORP.**

**UNDER SECTION 251 OF THE GENERAL  
CORPORATION LAW OF THE STATE OF DELAWARE**

Pursuant to Section 251(c) of the General Corporation Law of the State of Delaware, Agere Systems Guardian Corp. hereby certifies the following information relating to the merger of Agere Systems Optoelectronics Guardian Corp. with and into Agere Systems Guardian Corp.:

1. The names and states of incorporation of each constituent corporation in the merger are:

| <u>Name</u>                                     | <u>State of Incorporation</u> |
|---|-------------------------------|
| Agere Systems Optoelectronics<br>Guardian Corp. | Delaware                      |
| Agere Systems Guardian Corp.                    | Delaware                      |

2. An Agreement and Plan of Merger setting forth the terms and conditions of the merger, has been approved, adopted, certified, executed and acknowledged by each of Agere Systems Optoelectronics Guardian Corp. and Agere Systems Guardian Corp. in accordance with the provisions of Section 251(c) of the General Corporation Law of the State of Delaware.

3. The name of the surviving corporation in the merger is Agere Systems Guardian Corp.

4. The Certificate of Incorporation of Agere Systems Guardian Corp. shall be the Certificate of Incorporation of the surviving corporation.

5. The executed Agreement and Plan of Merger is on file at the principal place of business of Agere Systems Guardian Corp. at Two Oak Way, Berkeley Heights, NJ 07922.

6. A copy of the Agreement and Plan of Merger will be furnished by Agere Systems Guardian Corp. on request and without cost, to any stockholder of Agere Systems Guardian Corp. or Agere Systems Optoelectronics Guardian Corp.

7. The authorized capital stock of Agere Systems Optoelectronics Guardian Corp. is 1,000 shares of common stock, no par value per share.

8. The Merger shall be effective as of 9:00 a.m. Eastern Standard Time on August 31, 2001.

IN WITNESS WHEREOF, this Certificate of Merger has been executed on this 23rd day of August 2001.

AGERE SYSTEMS GUARDIAN CORP.

By Gerard A. deBlasi  
Gerard A. deBlasi  
Vice President

State of Delaware  
*Office of the Secretary of State*

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PAGE 1

I, HARRIET SMITH WINDSOR, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF MERGER, WHICH MERGES:

"AGERE SYSTEMS OPTOELECTRONICS GUARDIAN CORP.", A DELAWARE CORPORATION,

WITH AND INTO "AGERE SYSTEMS GUARDIAN CORP." UNDER THE NAME OF "AGERE SYSTEMS GUARDIAN CORP.", A CORPORATION ORGANIZED AND EXISTING UNDER THE LAWS OF THE STATE OF DELAWARE, AS RECEIVED AND FILED IN THIS OFFICE THE TWENTY-FOURTH DAY OF AUGUST, A.D. 2001, AT 9 O'CLOCK A.M.

AND I DO HEREBY FURTHER CERTIFY THAT THE EFFECTIVE DATE OF THE AFORESAID CERTIFICATE OF MERGER IS THE THIRTY-FIRST DAY OF AUGUST, A.D. 2001, AT 9 O'CLOCK A.M.

A FILED COPY OF THIS CERTIFICATE HAS BEEN FORWARDED TO THE NEW CASTLE COUNTY RECORDER OF DEEDS.



*Harriet Smith Windsor*  
Harriet Smith Windsor, Secretary of State

3258123 8100M

AUTHENTICATION: 1311649

010418909

DATE: 08-24-01

CERTIFICATE OF OWNERSHIP AND MERGER  
OF

Agere Systems Guardian Corp.  
(a Delaware corporation)

INTO

Agere Systems Inc.  
(a Delaware corporation)

UNDER SECTION 253 OF THE GENERAL  
CORPORATION LAW OF THE STATE OF DELAWARE

Agere Systems Inc., a corporation organized and existing under the laws of Delaware ("Corporation"), DOES HEREBY CERTIFY:

**FIRST:** The Corporation is the owner of all of the outstanding shares of common stock of Agere Systems Guardian Corp., which is also a business corporation of the State of Delaware.

**SECOND:** On August 22, 2002 the Subsidiary Governance Committee of the Board of Directors of the Corporation adopted the following resolution to merge Agere Systems Guardian Corp. into the Corporation:

**RESOLVED** that Agere Systems Guardian Corp., a Delaware corporation, shall be merged with and into Agere Systems Inc., a Delaware corporation, with Agere Systems Inc. being the surviving corporation, and Agere Systems Inc. shall thereupon assume all of the obligations of Agere Systems Guardian Corp."

**THIRD:** That the merger authorized hereby shall become effective as of 9:00 a.m. Eastern Standard Time on August 31, 2002.

Executed on August 22, 2002

AGERE SYSTEMS INC.

By Paul Bento  
Paul Bento, Vice President

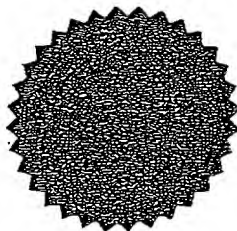
*The First State*

I, HARRIET SMITH WINDSOR, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF OWNERSHIP, WHICH MERGES:

"AGERE SYSTEMS GUARDIAN CORP.", A DELAWARE CORPORATION,  
WITH AND INTO "AGERE SYSTEMS INC." UNDER THE NAME OF "AGERE SYSTEMS INC.", A CORPORATION ORGANIZED AND EXISTING UNDER THE LAWS OF THE STATE OF DELAWARE, AS RECEIVED AND FILED IN THIS OFFICE THE TWENTY-NINTH DAY OF AUGUST, A.D. 2002, AT 9 O'CLOCK A.M.

AND I DO HEREBY FURTHER CERTIFY THAT THE EFFECTIVE DATE OF THE AFORESAID CERTIFICATE OF OWNERSHIP IS THE THIRTY-FIRST DAY OF AUGUST, A.D. 2002.

A FILED COPY OF THIS CERTIFICATE HAS BEEN FORWARDED TO THE NEW CASTLE COUNTY RECORDER OF DEEDS.



*Harriet Smith Windsor*

Harriet Smith Windsor, Secretary of State

3268412 8100M

AUTHENTICATION: 1959517

020545223

DATE: 08-29-02

## APPENDIX G

PATENT APPLICATION ASSIGNMENT

THIS PATENT APPLICATION ASSIGNMENT is made as of January 2, 2003 by AGERE SYSTEMS INC., a Delaware corporation having a principal place of business at 1110 American Parkway, NE, Allentown, Pennsylvania 18109, hereinafter referred to as the ASSIGNOR, and TRIQUINT TECHNOLOGY HOLDING CO., a Delaware corporation with offices at 2300 NE Brookwood Parkway, Hillsboro, OR 97124, hereinafter referred to as the ASSIGNEE.

ASSIGNOR is the owner of certain patent applications identified on Schedule "A" attached hereto (the "ASSIGNED PATENT APPLICATIONS").

ASSIGNEE desires to acquire the entire right, title and interest of ASSIGNOR in and to said ASSIGNED PATENT APPLICATIONS.

For good and valuable consideration paid by the ASSIGNEE, the receipt of which is hereby acknowledged, ASSIGNOR does hereby sell, assign and transfer to the ASSIGNEE, at ASSIGNEE's sole expense, ASSIGNOR's entire right, title and interest in and to the ASSIGNED PATENT APPLICATIONS, in the U.S. and every foreign country, and all patent rights, including extensions or derivations thereof, both foreign and domestic, that may issue on the ASSIGNED PATENT APPLICATIONS. ASSIGNEE hereby authorizes and requests the Commissioner of Patents that all U.S. patents that issue on the ASSIGNED PATENT APPLICATIONS shall issue to ASSIGNEE. This assignment includes assignment to ASSIGNEE of the right to make application in its own behalf for protection of the ASSIGNED PATENT APPLICATIONS and any patents issued on the ASSIGNED PATENT APPLICATIONS, in the U.S. and countries foreign to the U.S., and to claim under the Patent Cooperation Treaty, the International Convention and/or other international arrangement for any such application the date of any earlier U.S. application (or any other application on the invention) to gain priority with respect to other applications. The ASSIGNED PATENT APPLICATIONS and all patents that issue on the ASSIGNED PATENT APPLICATIONS shall be held and enjoyed by the ASSIGNEE, its successors and assigns as fully and entirely as the same would have been held and enjoyed by the ASSIGNOR had this assignment not been made.

ASSIGNOR covenants and agrees to execute such further and confirmatory assignments in recordable form as the ASSIGNEE may require to vest record title of said respective ASSIGNED PATENT APPLICATIONS in ASSIGNEE.

IN WITNESS WHEREOF, the ASSIGNOR has caused this Assignment to be executed by a duly authorized officer.

AGERE SYSTEMS INC.

By: Gerard A. deBlasi  
Name: Gerard A. deBlasi  
Title: Vice President

**SCHEDULE A OF PATENT APPLICATION ASSIGNMENT****ASSIGNED PATENT APPLICATIONS**

| <b>Full Case Name</b>       | <b>IDS</b> | <b>Country</b> | <b>Patent # / Serial #</b> |
|-----------------------------|------------|----------------|----------------------------|
| DA Ackerman 25-24-29-44     | 118172     | CHINA          | 00137088.X                 |
| DA Ackerman 25-24-29-44     | 118172     | JAPAN          | 2000-396401                |
| DA Ackerman 25-24-29-44     | 118172     | CANADA         | 2327981                    |
| DA Ackerman 25-24-29-44     | 118172     | FRANCE         | 311056.6                   |
|                             | 118172     | GERMAN         | 311056.6                   |
| DA Ackerman 25-24-29-44     |            | Y              |                            |
| DA Ackerman 25-24-29-44     | 118172     | GR BRIT        | 311056.6                   |
| DA Ackerman 25-24-29-44     | 118172     | USA            | 09/475606                  |
| DA Ackerman 27-15-1-13-11-2 | 122865     | USA            | 09/668675                  |
| DA Ackerman 27-15-1-13-11-2 | 122865     | FRANCE         | 1307994.2                  |
|                             | 122865     | GERMAN         | 1307994.2                  |
| DA Ackerman 27-15-1-13-11-2 |            | Y              |                            |
| DA Ackerman 27-15-1-13-11-2 | 122865     | GR BRIT        | 1307994.2                  |
| DA Ackerman 27-15-1-13-11-2 | 122865     | JAPAN          | 2001-288062                |
| DA Ackerman 29-14-7-11      | 123914     | USA            | 10/036437                  |
| DA Ackerman 30-29-6-22      | 123989     | USA            | 10/036397                  |
| DA Ackerman 31-2            | 123884     | USA            | 10/157452                  |
| T Ahmed 2-6-4-9-27          | 124063     | USA            |                            |
| YA Akulova 1-4-2            | 120821     | USA            | 60/175010                  |
| YA Akulova 1-4-2            | 120821     | USA            | 09/540471                  |
| YA Akulova 1-4-2            | 120821     | KOREA          | 102001-0000910             |
| YA Akulova 1-4-2            | 120821     | JAPAN          | 2001-1383                  |
| YA Akulova 1-4-2            | 120821     | TAIWAN         | 90100234                   |
| YA Akulova 1-4-2            | 120821     | GR BRIT        | 100172.6                   |
| YA Akulova 2-14-11-5-7-8    | 119681     | USA            | 09/539882                  |
| YA Akulova 2-14-11-5-7-8    | 119681     | CANADA         | 2342518                    |
| YA Akulova 2-14-11-5-7-8    | 119681     | GR BRIT        | 1303131.5                  |
| YA Akulova 2-14-11-5-7-8    | 119681     | FRANCE         | 1303131.5                  |
|                             | 119681     | GERMAN         | 1303131.5                  |
| YA Akulova 2-14-11-5-7-8    |            | Y              |                            |
| YA Akulova 2-14-11-5-7-8    | 119681     | CHINA          | 1117803.5                  |
| YA Akulova 2-14-11-5-7-8    | 119681     | JAPAN          | 2001-101591                |
| YA Akulova 3-12-10          | 120821     | USA            | 09/645913                  |
| YA Akulova 4-74-10-6-12-3   | 120340     | USA            | 09/923661                  |
| YA Akulova 5-8-6-11-15      | 122845     | USA            | 10/125169                  |
| MA Alam 2-3                 | 116221     | USA            | 60/117239                  |
| MA Alam 2-3                 | 116221     | FRANCE         | 1030420                    |
|                             | 116221     | GERMAN         | 60000178.4                 |
| MA Alam 2-3                 |            | Y              |                            |
| MA Alam 2-3                 | 116221     | GR BRIT        | 1030420                    |
| MA Alam 2-3                 | 116221     | KOREA          | 2000-0003651               |
| MA Alam 2-3                 | 116221     | USA            | 09/370667                  |
| MA Alam 2-3                 | 116221     | JAPAN          | 2000-015646                |
| MA Alam 3-6-4-9-9-10-59     | 119698     | FRANCE         | 1302875.8                  |
|                             | 119698     | GERMAN         | 1302875.8                  |
| MA Alam 3-6-4-9-9-10-59     |            | Y              |                            |